

REMARKS

By this Amendment, pending Claims 1 and 4 have been amended. The claim amendments do not introduce new matter. Also, it is submitted that the claim amendments do not raise any new issue that would require further search and/or consideration by the Examiner. Particularly, Applicants propose to amend claim 1 to recite "preparing a solid plastic mixture comprising plural kinds of diamagnetic solid plastic particles having different compositions from each other" (emphasis added). However, Applicants previously discussed this amended feature in the Amendment filed on September 29, 2003. See, for example, the paragraph bridging pages 9-10 of the September 29 Amendment. Accordingly, because the Patent Office has previously considered this feature, the amendments do not raise any new issue. Reconsideration of the Official Action is respectfully requested in light of the above amendments and the following remarks.

1. Claim Objections

The Official Action objected to claims 1 and 4. In response, the method steps recited in claim 1 have been separated by line indentations, as suggested in Official Action. Claim 4 has been amended to change "A method" to "The method." Withdrawal of the objections is respectfully requested.

2. Rejection Under 35 U.S.C. §102/§103

Claims 1 and 4 stand rejected under 35 U.S.C. §102(b) over U.S. Patent No. 4,187,170 to Westcott et al. ("Westcott") or, in the alternative, under 35 U.S.C. §103(a) over Westcott in view of U.S. Patent No. 4,347,124 to Shimoiiizaka et al. ("Shimoiiizaka"). The rejection is respectfully traversed.

Claim 1, as amended, recites a method for separating different kinds of solid plastic particles in a solid plastic mixture, which comprises "preparing a solid plastic mixture comprising plural kinds of diamagnetic solid plastic particles having different compositions from each other, floating, suspending or precipitating said solid plastic particles in an aqueous solution of paramagnetic inorganic salt as a supporting liquid, applying a magnetic field gradient to the solid plastic mixture, and levitating or anti-levitating said plastic particles at different locations in the supporting liquid under the magnetic field gradient, depending upon their densities and diamagnetic susceptibilities of the plastic particles" (emphasis added). Support for the amendments to claim 1 is provided at paragraphs [011], [021] and [022] of the specification, and in Figures 2 and 3. As described in the specification and shown in the drawings, the plural kinds of diamagnetic solid plastic particles in the solid plastic mixture can include, for example, SPP, SB, PS and SA plastics, as shown in Figure 2, or PMMA and PET plastics, as shown in Figure 3. Neither Westcott taken alone nor Westcott in combination with Shimoizaka discloses or suggests the method recited in claim 1.

It is asserted in the Official Action that Westcott discloses the separation of plastic, i.e., polyethylene, and "thus it is implicit that *different kinds* of these plastics (e.g., sizes or density) are involved." Applicants note that Westcott discloses essentially non-magnetic materials at column 4, lines 34-39. However, Westcott does not disclose or suggest "a solid plastic mixture comprising plural kinds of diamagnetic solid plastic particles having different compositions from each other," as claimed. Accordingly, the method recited in claim 1 is not anticipated by Westcott.

Shimoizaka fails to cure the deficiencies of Westcott regarding the method recited in claim 1. Particularly, Shimoizaka also fails to disclose a method for separating different kinds of solid plastic particles in a solid plastic mixture, where the plastic mixture is "a solid plastic mixture comprising plural kinds of diamagnetic solid plastic particles having different compositions from each other" (emphasis added), and the method comprises, inter alia, "floating, suspending or precipitating said solid plastic particles in an aqueous solution of paramagnetic inorganic salt as a supporting liquid" (emphasis added), as recited in claim 1.

Shimoizaka discloses a process for separating non-magnetic materials of different density using a "ferromagnetic liquid" defined as "a colloidal suspension in which magnetic particles, such as extremely minute particles of magnetite, are stably dispersed . . ." (column 1, lines 17-20). Applicants submit that one having ordinary skill in the art would understand that the "ferromagnetic" liquid disclosed by Shimoizaka is different from the "aqueous solution of paramagnetic inorganic salt as a supporting liquid," as recited in claim 1.

Particularly, the claimed paramagnetic supporting liquid is "non-magnetic" and is an aqueous solution. In contrast, Shimoizaka's ferromagnetic liquid is "strong magnetic" and is a suspension of magnetite particles. The force exerted by the ferromagnetic liquid used in Shimoizaka's process is much stronger than the force exerted by the paramagnetic supporting liquid used in the method recited in claim 1. Consequently, Shimoizaka's process using a ferromagnetic liquid would not be suitable, for example, for separating particles having only slight differences in density, such as plural kinds of diamagnetic solid plastic particles, which can be separated by the method recited in claim 1. Moreover, Shimoizaka discloses the

separation of non-ferrous alloys including aluminum, aluminum alloys and zinc alloys (see, e.g., column 5, lines 33, et seq.), and not "a solid plastic mixture comprising plural kinds of diamagnetic solid plastic particles having different compositions from each other," as recited in claim 1.

Accordingly, it is respectfully submitted that the combination of Westcott and Shimoiiizaka would not have rendered obvious the method recited in claim 1.

Dependent claim 4 also is patentable for at least the same reasons as those for claim 1.

Withdrawal of the rejection is therefore respectfully requested.

3. Conclusion

For the foregoing reasons, withdrawal of the rejection and objections and prompt allowance of the application are respectfully requested.

Respectfully submitted,

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